

SATURDAY, JULY 18, 1874.

## ORIGINAL COMMUNICATIONS.

### ANALYSIS OF ONE HUNDRED AND TWENTY-FIVE CONSECUTIVE CASES OF LABOR AT FULL TERM.

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ONE of the first reflections which have occurred to me after a careful study of these cases is, that it is somewhat difficult to define exactly the term "normal labor." If any interference on the part of the accoucheur causes labor to lose its natural character, there should be a reduction in the number of labors usually reported as entirely natural. Thus, there seem to me to be two modes of interference of frequent applicability: prompt rupture of the membranes after complete dilatation of the os, without waiting for its spontaneous occurrence; and retraction of the anterior lip of the os even when not oedematous; neither of which is compatible with the accepted meaning of natural labor. I am firmly persuaded that attention to these two points often materially shortens the second stage even when the natural efforts are perfectly competent to accomplish the same ends, but in a somewhat longer time. There are other manoeuvres of apparently little moment which can be frequently used to advantage: *e.g.*, when the foetal head is found to be imperfectly flexed during the last third of the first stage, and not making uniform pressure on the os, a little manipulation may change in a few moments what a half-dozen pains might have been otherwise required to accomplish. The time gained by such a trifling interference is no small object. Thus, assuming the case just stated, we may take at least a half-minute for the duration of each pain, interval between each pain five minutes, making a total of twenty-eight minutes. And yet this could not be called a normal labor if we accept, for instance, Meadow's definition. We should, perhaps, classify obstetrical operations, like surgical ones, into minor and capital. The intentional rupture of the membranes is as much of an operation often as opening an abscess or even tapping a hydrocele. To be brief, I have arranged these cases in three tables. Table I. contains forty-four cases in which labor progressed and terminated by the natural efforts without any interference, and presents the following data: 1, the number of the case in consecutive order; 2, the woman's age; 3, the number of her pregnancies (P meaning primipara); 4, the duration of the first, second, and third stages respectively; 5, the sex of the child; 6, its weight; 7, the presentation and position. Baudelocque's third and sixth positions seem to have fallen into deserved disrepute. Leishman's nomenclature is therefore substituted, in which the first and second positions of the vertex are the same as Baudelocque's, but the third and fourth correspond to

the fourth and fifth of the same author. Table II. presents the same data in sixty-seven cases in which labor terminated by the natural efforts, but in which there was more or less interference, sometimes demanded by inertia or some trifling complication, and sometimes made in an entirely natural labor. Table III. gives the same data in fourteen cases in which there was capital interference, and presents, also, the nature and cause for the artificial termination. The whole number may be summed up as follows: Twin cases 2; single births 123; presentations 127—*viz.*, breech 1, shoulder 1, vertex 125, of which 97 were in the first position, 22 in the second, 5 in the third, and 1 in the fourth. Of the children, sixty were males, and sixty-seven females, of which four males and one female were still-born. Of the mothers, ninety were multipara and thirty-five primipara. Their nativity was—American 43, Irish 40, Welsh 27, English 11, Scotch 2, German 1, Swede 1.

#### REMARKS.

One mode of interference to which I have alluded is not strictly orthodox, and needs explanation. When a labor has advanced so far that the posterior lip of the os has retreated, so to speak, beyond reach, the os may be said to be fully dilated. At the same time we will generally find the anterior lip of some length, and applied over the child's occiput, the head being normally engaged at the superior strait. So far as it does anything it certainly forms an obstacle to the descent of the occiput, if not to complete flexion of the head. If the membranes be now ruptured, the head will begin to descend with the same or succeeding pain: when it does not, I have been led to attribute the delay to the anterior lip, and have acted accordingly,—*viz.*, by placing two fingers under the edge of the lip, and endeavoring to slip or push it over the occiput. This procedure has frequently seemed to have been of great service, is very often feasible, and, when judiciously employed, harmless. I have twice resorted to Kristeller's plan of external pressure for inertia (Table II., Cases 99 and 114). In the latter case quinine and opium had each been used without effect; three pains assisted by pressure brought the head to the perineum, and delivery was then terminated without further assistance. External rotation was performed in Case 87, Table II. After complete dilatation, three poor pains brought the head nearly to the perineum. Although the pains improved in strength and frequency, there was no further advance for one hour and twenty minutes. *Diagnosis.*—Shoulders placed antero-posteriorly at the brim. With the next pain I rotated the shoulders by external manipulation; the head at once descended on the perineum, and was delivered by the succeeding pain. There were six cases of occipito-posterior positions. In three the occiput was born posteriorly: in two of these the pelvis was sufficiently roomy to allow of the easy passage of the head without anterior rotation; in the third the disproportion was too great to allow of this rotation by any means. In the other three cases there was

anterior rotation, and the occiput was brought under the pubes, twice spontaneously, and in one (Case 89) the head rotated in the blades of the forceps. At another time I hope to be able to present a careful study of this remarkable process of rotation while in the grasp of the forceps.

But one case in the series was followed by death (Table III., Case 7). An irregular practitioner had attended the woman, and repeatedly endeavored to apply instruments. I was called in consultation, and delivered the child, but, not feeling willing to be held responsible for the result of his previous manipulation, relinquished the case, which subsequently died of pelvic cellulitis and peritonitis. There were but two cases of hemorrhage, both post-partum and dependent on malarial poisoning; and in one of these ergot was given for the only time in the series. These three cases are the only ones in which recovery was not prompt and satisfactory.

Averages are deceitful, except from large figures. Nevertheless, so-called "meddlesome midwifery" can extract some comfort from these statistics. The average duration of the second stage in Table I. was 51.25 min.; in Table II., 55.34 min.; a difference of only 4.09 minutes. In many cases interference was postponed until a considerable lapse of time had suggested its necessity. Inertia, the great lengthener of labor, was present in a majority; there was an excess of 13 per cent. in the number of primiparæ, so that the aid attempted to be offered must have been of some avail. The still-births (all in Table III.) demand some explanation. No. 21 was originally attended by a midwife, who neglected to tie the cord after the first birth. There being but one placenta, or rather two intimately joined, the second bled to death before medical aid was summoned. Nos. 26 and 86 presented the alternative of craniotomy or such forcible compression by the forceps as inevitably to destroy life. No. 48 is the only case in which there could be any doubt as to the necessity of the amount of pressure employed. No. 67 is sufficiently interesting to be given in detail. Labor began July 7, in the evening. Dr. L. A. Bard was summoned, and found the os fully dilated after only two hours of labor. The pains had ceased, and were not renewed until the next evening. By 12 P.M. the head had descended into the excavation, when convulsions set in. Dr. B. at once bled her freely, which stopped the convulsions, and sent for me. I arrived at 1 A.M., and did not anticipate any difficulty after an examination. While warming the forceps the convulsions reappeared, and ether was at once administered and the forceps applied. Vigorous traction for half an hour was required before the head was delivered; after which the neck was found to be stretched, and the shoulders "stuck" at the brim, antero-posteriorly. With considerable exertion we managed to hook down the right or posterior shoulder, and finally to extract the child. There was no return of the convulsions, and she made a good recovery. I have since arrived at the conclusion that the arrest of the head just above the inferior strait after an easy descent so far, and its continuance there despite good pains, is diagnostic of delay of

the shoulders above the brim. As in a case already cited, I have no doubt that external manipulation will generally suffice to rotate the shoulders into a wider pelvic diameter.

Table I.—Delivery by Natural Efforts without Interference.

No. of Case.	Age.	No. of Pregnancy.	DURATION OF STAGES.			CHILD.				Remarks.
			First. h. m.	Sec'd. h. m.	Third m.	Sex.	Weight.	Presentation.	Position.	
3	22	P	12	1	10	M.	7½	V.	1	
4	35	P	3	30	10	M.	10	V.	1	
5	20	P	7	1.15	5	F.	7	V.	1	
6	25	P	5	2	10	F.	7	V.	1	
9	26	2	5.20	20	10	F.	5½	V.	1	
15	19	2	3	5	10	F.	6	V.	1	
18	25	3	4	1	8	F.	6	V.	1	
19	30	4	3	1.15	10	M.	10	V.	3	No anterior rotation. Perineum rigid.
20	23	2	4.30	15	13	M.	9	V.	1	
22	33	10	3	30	6	M.	9	V.	1	
24	28	5	10	1.30	10	M.	10	V.	2	
33	28	2	2	30	12	F.	7	V.	1	
34	30	8	26	2.30	5	F.	10	V.	1	Rigid os uteri.
35	27	2	10.30	35	15	M.	8	V.	1	
38	30	3	4	30	5	F.	6	V.	1	
40	30	3	5	1	20	M.	8	V.	1	
41	30	6	10	1	5	F.	8	V.	1	
44	23	P	1.45	5	20	F.	6	V.	1	
49	40	7	5	30	8	F.	8½	V.	1	
51	23	2	9.30	30	15	M.	9	V.	1	
52	25	6	4	30	35	M.	6	V.	1	
55	25	2	6	30	20	M.	5	V.	1	
57	26	2	2.50	2	5	F.	7	V.	3	No anterior rotation.
58	28	4	4	1.35	10	M.	8	V.	1	
65	21	P	4	1.30	10	M.	9	V.	1	
72	23	P	5	2.40	12	M.	6	V.	2	
74	22	2	3.10	20	4	F.	7	V.	1	
79	28	6	3.45	15	10	F.	7	V.	1	
80	36	P	5	30	15	M.	8	V.	1	
85	18	P	9	1.30	5	M.	5	V.	1	
92	31	5	2	45	15	M.	7½	V.	2	
94	25	3	2	30	5	F.	9	V.	1	
97	30	6	1.45	30	5	F.	9	V.	1	
98	22	2	2.20	45	10	M.	9	V.	1	
101	20	2	2	45	6	M.	10	V.	1	
104	19	2	6.30	1	5	F.	10½	V.	2	
105	42	10	2.15	1.10	10	F.	11	V.	1	
107	25	2	1.30	30	15	F.	7	V.	1	
109	35	10	45	20	6	F.	9	V.	1	
110	24	2	4.30	20	10	M.	8	V.	1	
118	19	P	3.30	40	10	M.	6	V.	1	
119	30	5	16	30	10	F.	6	V.	1	
120	22	2	4	1.10	8	M.	9	V.	1	
121	34	4	2	40	6	F.	10	V.	2	

Table II.—Delivery by Natural Efforts after Interference.

No. of Case.	Age.	No. of Pregnancy.	DURATION OF STAGES.			CHILD.				Remarks.
			First. h. m.	Sec'd. h. m.	Third m.	Sex.	Weight.	Presentation.	Position.	
1	35	7	12	15	10	M.	6	V.	1	
8	33	5	4	2	5	F.	8	V.	1	
10	21	P	36	1	12	F.	9	V.	1	
11	20	P	24	1.55	10	M.	9½	V.	1	
12	30	7	3	30	15	F.	8	V.	2	
13	27	2	2.30	25	8	F.	8	V.	1	
14	26	2	6	1.25	10	F.	7	V.	1	
16	32	7	4.30	1	8	F.	6	V.	1	
17	27	3	2.45	15	13	F.	7	V.	1	
25	25	3	5	55	7	F.	10	V.	1	
27	17	P	4.30	1.15	15	M.	6	V.	1	Very thick membranes. Labor during remittent fever.

Table II.—continued.

No. of Case.	Age.	No. of Pregnancy.	DURATION OF STAGES.			CHILD.				Remarks.
			First. h. m.	Sec'd. h. m.	Third. m.	Sex.	Weight.	Presentation.	Position.	
28	38	5	2	5	10	M.	9	V.	1	Adherent membranes.
29	32	5	2	30	45	F.	9	V.	1	
30	33	3	3.20	10	15	F.	9½	V.	1	
31	23	P	10	30	10	M.	9½	V.	1	
32	21	P	6	1	10	F.	8	V.	1	
36	31	P	9	5	8	F.	10	V.	1	
37	21	P	10	45	10	F.	7	V.	1	
39	25	6	1.45	15	5	M.	6	V.	1	
42	24	P	12	1.5	10	F.	7	V.	1	
43	17	P	24	1.5	7	M.	17	V.	1	
45	23	P	24	1.30	10	F.	7	V.	1	Placental vacuum.
46	25	P	8	3	15	M.	10	V.	1	
47	30	4	14	1	10	M.	9	V.	2	
50	22	2	5	1	75	M.	7	V.	1	
53	38	10	11	20	5	M.	9	V.	1	
54	30	6	3	35	8	M.	11	V.	2	
56	17	P	4.30	1.20	5	M.	7	V.	1	
59	25	3	5	20	10	F.	6	V.	1	
61	21	P	4.20	1.10	10	F.	6	V.	1	
61	21	P	8	1.10	8	F.	6	V.	1	
62	27	3	6	1.30	7	M.	9	V.	1	
63	40	14	3	15	22	F.	5	V.	2	
64	24	2	5	30	7	M.	6½	V.	1	
66	23	3	1.45	5	5	F.	9	V.	1	
68	18	P	8.15	1	11	M.	6	V.	1	
70	38	8	16	10	5	F.	8	V.	2	
71	26	4	4	15	5	M.	7½	V.	1	
73	21	3	5	30	6	F.	8	V.	1	
75	28	4	6	15	5	M.	10	V.	2	
76	20	2	12	1.45	5	F.	6	V.	1	
77	19	2	2	50	10	F.	7	V.	1	
81	30	7	22	15	5	F.	7	V.	1	
82	22	3	3.10	10	5	M.	10½	V.	1	
84	24	10	6.15	30	10	F.	9	V.	1	
87	27	8	4	1.45	5	M.	9	V.	1	
88	22	P	7	2.45	10	F.	8	V.	1	
90	26	3	7.45	25	5	F.	10½	V.	1	
91	17	P	1	1	10	M.	7½	V.	1	
93	38	6	3.15	40	5	F.	9	V.	1	
95	23	2	8.15	15	10	M.	8	V.	1	
96	28	P	4	2.25	6	F.	8	V.	1	
99	30	4	7.10	45	10	F.	7	V.	1	
100	22	4	4	5	5	F.	7	V.	1	
102	26	3	4.30	15	5	M.	6½	V.	3	
106	26	4	10.15	20	4	F.	9	V.	1	
108	25	P	16.30	1.45	10	M.	9½	V.	1	
111	16	2	10.15	1.45	10	F.	8	V.	2	
112	32	7	7	20	5	F.	8	V.	1	
113	27	3	11	35	7	M.	7	V.	1	
114	44	10	4	3	5	M.	10½	V.	2	
115	35	7	2.5	25	5	F.	7	V.	1	
116	19	P	3.50	2.10	10	F.	6½	V.	1	
117	20	P	4.45	2.40	8	F.	9½	V.	1	
123	28	7	4	13	6	F.	8	V.	2	
124	29	6	7	30	5	F.	8½	V.	4	
125	17	P	19	1.15	10	F.	8	V.	1	

Table III.—Delivery by Capital Interference.

No. of Case.	Age.	No. of Pregnancy.	DURATION OF STAGES.			CHILD.				Character of interference.	Cause.	Remarks.
			First. h. m.	Sec'd. h. m.	Third. m.	Sex.	Weight.	Presentation.	Position.			
2	18	P.	7	4	6	M.	7	V.	1	Forceps.	Rigidity of soft parts.	
7	40	5	10	6?	10	M.	8	V.	2	Forceps at sup. strait.	Obliquely distorted pelvis.	
21	25	3	24	2	5	F.	6	Breech.	1	None.	Malposition.	
23	22	P.	12	3.30	12	F.	6½	Shl'dr.	1	Version.		Still-born.
26	35	12	43	2.15	5	M.	12	V.	2	Forceps.	Rigidity of soft parts.	Still-born.
48	29	2	12	3.30	5	M.	12	V.	3	Forceps at sup. strait.	Small conjugate diameter, occipito-posterior position, large head.	
67	19	P.	2	2.15	10	F.	10	V.	2	Forceps at sup. strait.	Obliquely distorted pelvis.	
69	35	8	24	30	15	F.	11	V.	2	Forceps and bleeding.	Child's shoulders caught at superior strait, and convulsions.	Still-born.
78	23	3	12	9.30	5	M.	9	V.	2	Forceps at sup. strait.	Obliquely distorted pelvis.	Still-born.
83	33	P.	12	2.15	10	M.	11	V.	1	Forceps at sup. strait.	Large head, no flexion.	
86	21	P.	6.15	3.20	15	F.	9	V.	1	Forceps.	Stiff sacro-coccygeal joint.	
89	25	2	10.15	6	10	M.	10½	V.	1	Forceps at sup. strait.	Disproportion, large head.	
103	30	P.	4	2.20	6	M.	10	V.	3	Forceps in excavation.	To aid rotation and save time.	
122	35	5	18	2.40	5	F.	7	V.	1	Forceps and ether.	Convulsions in second stage labor.	
				5.10	10	M.	7	V.	1	Forceps at sup. strait.	Uterine inertia.	

## DESCRIPTION OF A SPECIMEN OF LUPUS VULGARIS.

*Read before the Pathological Society of Philadelphia, May 14, 1874.*

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THE specimen which I present for examination was taken from a patient suffering with lupus vulgaris, who at the present time is under my care. He is an Irishman, 26 years of age, and has been the subject of the disease for fourteen years. An oval-shaped, superficial ulcer, the size of an almond, existed upon the back of the wrist, from the centre of which an island of tissue was seen projecting. This piece of unhealthy-looking skin, not larger than a small split-pea, and which had not been there more than a month when first seen by me, was excised with a scalpel. Examined at once with the naked eye, it was found to be soft, gelatinous, and too tender to handle. It contained very little blood, and was pale in color, as though it had been soaked in water. It was immediately placed in a one-fourth per cent. solution of chromic acid, and allowed to remain there three days, when it was transferred to strong alcohol for a few hours, and in this manner prepared for examination. The small fragment was entirely disposed of into thin sections which were variously treated with glycerin, carmine solution, oil of cloves, and oil of turpentine. A large number of the sections were studied, all of them affording similar results.

Under a low power, 60 diameters, the tissue is seen to consist of a very thin layer of hard, horn-like epidermis, remarkable for its imperfect development as well as for the extreme paucity of its cells. Immediately beneath this stratum, which may be likened to an enveloping membrane, is found the rete Malpighii, very highly organized, and unusually distinct in outline, dipping down between the papillæ of the corium. The papillary layer is next encountered, and is seen to be clearly defined against the rete. The papillæ are prominent, and unusually large. The corium itself is totally altered in structure, the connective tissue being almost completely obliterated and supplanted by a mass of fine "granular matter," invading every part of the corium. With the power of 60 diameters this structure bears a resemblance to the spores of certain fungi, particularly those of the *Trichophyton*, which refract light in such a brilliant manner.

Here and there throughout the corium are seen lumina, varying in shape and size, but without defined border, and which manifestly result from an absence or loss of the "granular matter" referred to. This condition is everywhere noticed, in the papillæ themselves as well as farther down in the corium. A few transversely cut fine hairs are observed in some of the specimens. Gland-structure is not noticed. Such are the features recognizable with a low power. With a higher power, 500 diameters, certain points appear which may be mentioned as follows. The rete cells are noticeably large and well defined in outline, possessing the rounded

nucleus and angular-formed nucleolus with more than ordinary clearness. Their borders exhibit the prickles very plainly. The rete shows a prolific and rapid growth of cells, similar to that which is seen in other speedy pathological changes which take place in the skin, as in herpes, for instance.

The "granular matter" spoken of when viewing the specimen under a low power is now seen to be made up of a multitude of small cells, which are closely packed together, either free or imbedded in a delicate mesh-work. These are of various shapes, some being rounded, others angular or polygonal, and others oval; in fact, they vary greatly as to outline. They also are different as to size; some being relatively very large, and others very small. Some are found to be similar in size to the red blood-corpuscles, while others, the vast majority, are very much smaller. They refract light in a marked degree. Their contents show various stages of change; some of them containing fine granular matter, with a few prominent black points in their centre, while others show a tendency to further disorganization and rupture. These cells, which form the bulk of the tissue, are very numerous, and appear to invade every portion of the corium, from the apices of the papillæ downwards; they are quite evenly disseminated throughout the structure, and show no tendency to aggregate or grow about a centre. At the same time, they are found in larger numbers at some points than at others,—this being accounted for, I think, by there being a more rapid and luxuriant growth at this point on account of some variation in the original connective tissue. The cells are not adherent one to the other, but appear as separate bodies, lying close to one another. The lumina referred to, represent points where disintegration and destruction of tissue, both of the original connective tissue as well as of the new formation, have taken place. About the borders of these cavities, shreds of connective tissue are seen, but they are scanty in number, imperfectly developed, and everywhere studded with the new formation cells. Although the mass of the corium appears to consist of these cells without much of a stroma, yet upon more accurate examination it is observed that a fine, delicate mesh serves as a bed for most of them, although they are often not firmly seated in it.

The case is an interesting one, from the fact of its being a very recent formation of lupus. It is a young specimen of the disease, showing the process in its early stage, and differs in this respect from the specimens usually obtained, which are apt to be of long standing, and show a somewhat different picture, particularly as regards the rete Malpighii.

The numerous cells infiltrating the corium comprise the chief interest which attaches itself to the specimen, and these seem to agree with the observations of Virchow, Auspitz, Neumann, and others. Rindfleisch, however, takes an entirely different view of the subject, considering lupus as an adenoma of the sebaceous glands, and placing it in close proximity to the epithelial growths. This latter view is so at variance with the one commonly



accepted that at present it is merely mentioned. Hebra, Virchow, and others agree in placing lupus with the neoplasmata, grouping it with elephantiasis græcorum and syphilis. Virchow considers these three diseases under the head of "granulation" tumors or growths, and adds that they consist of a decaying tissue very prolific in cells, which is rich in cells just in proportion to the degree of its pronounced character; and that the greater the number of cells it contains the smaller and less highly developed they are found to be. According to the same author, the lupus mass is made up of a collection of young, very soft, granulation-like tissue, generally abounding in vessels, which hold, as a rule, small round cells, resembling at times the cells of the rete Malpighii so much as to be difficult of diagnosis. This view corresponds in part with the examination of our case; but that the lupus cells resemble the rete cells so much as to be scarcely distinguishable the one from the other, is a statement which is by no means borne out by our investigation. The line of demarcation between rete and corium was well marked and distinct, so much so as to have been worthy of note in the report. In this connection, however, the variety of lupus, as well as the stage of the disease, whether recent or old, must be taken into consideration, for these are points which it seems to me are sufficient to render different pictures in this portion of the structure. From these few remarks it will be seen that in the main our examination is corroborated by the elaborate studies of both Virchow and Auspitz upon the pathology of this disease.

### TRANSLATIONS.

**A NEW METHOD FOR THE ENUMERATION OF RED AND WHITE BLOOD-CORPUSCLES.**—M. L. Malassez has communicated to the *Archives de Physiologie*, January, 1874, a method of counting blood-globules, together with an account of certain apparatus devised by himself for the purpose. The process has found great favor among European physiologists, and has been made use of in several recent researches. The apparatus used by M. Malassez is described minutely in the communication referred to, but we have only space to give a few particulars regarding it.

For the purpose of examination the blood is diluted with an artificial serum, composed of one vol. of a solution of gum arabic of specific gravity 1020, and three vols. of a solution of equal parts of sulphate and chloride of sodium, also of specific gravity 1020. The pipette, of a peculiar construction, called the "mixer," in which the blood and artificial serum may be mingled in any desired proportion with great accuracy, is figured and described at length by M. Malassez. For examination under the microscope a capillary tube of known volume is soldered to a glass slide, and by the aid of an eye-piece micrometer of peculiar construction, also devised by M. Malassez and described by him in the same number of the *Archives*, the number of globules to a given volume of blood is rapidly and accurately estimated. In ascertaining the proportion of red globules the blood is mixed with artificial serum in the ratio of 1 to 100 or to 200, but in the case of the white globules the ratio of blood to serum is as 1 to 50. It is in estimating the latter that M. M.'s method more espe-

cially shows greater accuracy than those formerly in use. He concludes his paper by a series of experiments on the blood in different pathological conditions, followed out by the aid of the above-mentioned apparatus and according to the process described.

A. V. H.

**RHYTHMIC MOVEMENTS OF THE VENA CAVA.**—At a recent séance of the Académie de Médecine (reported in *L'Abeille Méd.*, May 11, p. 180) Dr. Colin read a paper on this subject, going to show the possession of decided contractility on the part of these vessels near the point at which they open into the auricle; a contractility manifesting itself in rhythmical movements which are sustained even after destruction of the bulb (medulla oblongata?) if the circulation be kept up by artificial respiration. These pulsatory movements have a perfect systole and diastole, and are isochronous with those of the heart.

Dr. Colin's paper was criticised by M. Vulpian, who remarked that the ideas were not new, as it has long been known that a contraction of the vena cava precedes by an instant that of the auricle. M. Boulland drew attention to a paper by himself, read about a year ago, in which he had demonstrated the existence of rhythmical movements in the vena cava of frogs, though he had not observed them in the higher animals. The subject of Dr. Colin's paper was referred to a committee, but that gentleman subsequently remarked that he thought M. Vulpian must be mistaken if he imagined that he had observed these movements to be of a vermicular character. Dr. C. had invariably noticed in his experiments that the contraction operated along the entire length of the sinus of the vena cava at the same time that contraction of the auricles took place. M. Vulpian's error probably arose from his having employed agonized animals.

To this M. Vulpian replied that his experiments had not been made on agonized animals, but on those in whom artificial respiration had been conveniently and carefully sustained.

**ATROPHY OF THE TESTICLES FOLLOWING THE USE OF LARGE DOSES OF IODIDE OF POTASSIUM.**—The *Gaz. Méd. de Paris*, May 23, p. 269, quotes from the *Pabellou Medico* the following case coming under the notice of Dr. Juan Lomon:

A man of 27 had suffered from various manifestations of syphilis, among others, orchitis and pharyngeal ulcerations. Under the influence of judicious medication by means of iodide of potassium and mercury, all signs of disease disappeared. About a year later, however, some ulceration appeared on the pharynx, and the patient, taking the case into his own hands, dosed himself with large quantities of the iodide. The ulcers were finally healed, but a twelvemonth later he requested Dr. L. to examine his testicles. The right, on inspection, was found to have disappeared; the left was about the size of an almond. Coition was accompanied by pain, erection taking place slowly and lasting a long time. The duration of the venereal act was much prolonged, and no emission of semen took place.

**TEST FOR DIGITALIS.**—Bonner states that the best test for digitalis is Pettenkofer's reaction with the biliary acids. The smallest trace of digitalis dissolved in water may be detected by the addition, in the first place, of a watery solution of dried bile, and then of sulphuric acid. On warming the fluid to about 160° F., it assumes a peculiar red tint. If the addition of the sulphuric acid be so made that it does not mix with the solution, a red zone appears, which gradually spreads through the whole mass.—*Pharm. Zeitung*, 1873.

# PHILADELPHIA MEDICAL TIMES.

A WEEKLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE.

*The Philadelphia Medical Times is an independent journal, devoted to no ends or interests whatever but those common to all who cultivate the science of medicine. Its columns are open to all those who wish to express their views on any subject coming within its legitimate sphere.*

*We invite contributions, reports of cases, notes and queries, medical news, and whatever may tend to increase the value of our pages.*

*All communications must bear the name of the sender (whether the name is to be published or not), and should be addressed to Editor Philadelphia Medical Times, care of the Publishers.*

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## EDITORIAL.

### WHITHER ARE WE DRIFTING?

IN times that are past, the American medical profession was dignified as well as honorable; its leaders men of decorum, whose example was as a bright and shining light that guided the rank and file of the profession in paths of quietness; its code of ethics the reflection of a professional public opinion that bound men together into a united body, leaving a wide gulf between the doctor and the quack. But in the whirlpool of the present decade, the whirlpool whose vortex was the crash of last September and whose eddy is the general stagnation of to-day, the profession at first sight seems to have been swept away from its old moorings,—its reputed leaders joining the mad dance of Mammon, and bartering for gold that professional honor and repute which were formerly valued so highly, or else with dazzled vision mistaking notoriety for fame, and rushing blindly along the paths of the empiric, until medicine and quackery appear to be fusing into one.

Our own city was formerly the very centre of professional dignity,—over-weighted, it may have been, with an excess of that truly valuable but now despised commodity. But what do we see in the present?—newspaper-fame sought after with the greediest avidity by men of the highest position; the college lecture-room turned into an exhibition-room for the juggler, amidst the plaudits of a class only too glad to have their hour of study replaced by the low performance of a variety theatre; grave

professors demeaning themselves to become an appendage of itinerant showmen and performers, playing with them the game of “you tickle me, Tom, I’ll tickle you, Harry,” in the race for advertisement. Frantic, however, as are our struggles, we are ignominiously baffled and beaten by our compeers of a sister city, who, with a genius rivalling that of Paracelsus, ride one sensation after another. As the dog-days approach, the annual cry of “mad dog” affords the opportunity always watched for, and most vehemently has it been embraced.

The particulars of McCormick’s case are, we doubt not, well known to all our readers, certainly so to every one who scans the New York dailies. Although the case at most is only one of hydrophobia, the city is thrown into a turmoil; columns of the newspapers are occupied with the discussions; one day we are told that the great Prof. — is to be at the inquest with his microscope; then that he has been there; then that he has made a wonderful discovery—has laid bare the *fons et origo mali*; and the scientific world is called upon to fall down before him, and to rise to shout hosannas as his triumphal car passes by. The truth seems to be that Prof. — has really done nothing worthy of comment,—done nothing and said nothing which has not been done and said at least as well years before, at home and abroad. A day or two afterwards, a modest card appears, disclaiming the high honors awarded; but has any one a doubt as to who furnished the illustrative diagrams and who inspired the *Tribune* articles? To convert this disgraceful race for notoriety into a comedy only one thing was lacking, and that deficiency was soon supplied. Another professor, not desiring to be completely outshone, taking on himself the duty of a detective, hunts up the dog that bit McCormick, and finds that he was not mad. Here the assistant of the first professor—like master like man—comes on the stage, and, carrying out the search a little further, announces that the dog was certainly not mad, and startles the city reporters and editors with the astounding discovery that any dog, sane or insane, may cause rabies in man by the poison of his bite.

All this may be very funny to read about, but viewed from the old stand-point it is more disgraceful than it is funny. And when the prominent position occupied by these medical Barnums is remembered, certainly the question which heads this editorial will arise in the mind of almost every one. If any, however, will take the trouble to look, we think that he will find that the same names appear over and over again; that really but a few men have seemingly cast aside all the traditions of

the fathers, and that there are still very many physicians, ay, even the great bulk of our leaders, honorable as our fathers would have judged, and wearing robes of unspotted purity. We think, however, that the time has come for a decision as to what the future shall be: whether, adopting the arts of the empiric and of the business-man, the profession shall descend from the position it has hitherto arrogated to itself, or whether it shall bear aloft the old standards of a faith and a practice above that of other walks of life. If the latter is not deemed desirable, by all means let the code of ethics be repealed and the whole profession put on the one footing; but if it is deemed desirable, let the code be enforced.

It may be that these various traps to catch the glitter of notoriety are set so deftly that they are not actual infringements of the code, and no medical society can reach their owners. But there is in every man's breast a longing for respect: even the veriest quack quails in his heart before his own image. If the medical press were always sufficiently independent to raise its voice; if medical public opinion were strong enough and bold enough; if, shunned at societies and avoided in the consulting-room by the individual members of the profession, these medical knights of the daily press felt the loss of respect among their medical brethren; if the records of the lecture-room revealed the damage to the professional standing of the professors,—then these gentlemen would of necessity either pass from one step to another on to open quackery, or, more probably, confine themselves to the legitimate means of obtaining practice.

THE quarrel of *The Clinic* with a British journal seems to have turned the brain of its editor: at least such is the only explanation that suggests itself to us of the following paragraph:

"The *Philadelphia Times* is engaged in a very small business when it throws the whole odium of failure of our national association upon Western men and Western cities. The *Times*, we are sorry to see, feels it necessary to fawningly apologize to Europe by grossly insulting its own country."

All that we said was that the body was not representative of the whole country, and that the larger portion of the best medical profession in America was located in our Eastern cities,—two truisms which could never have excited the ire of any one who was not occupying the position of the Irishman at the fair, who, shillalah in hand, paraded with the request, "Will somebody be plased to tread on my coat-tails?"

THERE are said to be now in Germany eighty-two cremation societies, in as many cities. A furnace, invented by Profs. Reclam and Siemens, of Berlin, is stated to have reduced, at the recent trial, two hundred-weight of animal carcass to white ashes in about an hour and a half, at a cost of three shillings for fuel. Dr. Steinmetz, of Würtemberg, has proposed a new method of disposing of the dead. The corpse is to be placed in a trough made of cement, and covered up completely with liquid cement. The cement soon hardens, and, absorbing all moisture from the body, converts it into a preservable mummy at small expense and trouble. As soon as the cement hardens, the square coffins may be piled one upon the other like blocks of stone.

CAREFULLY-EXECUTED casts of the fractured humerus by which the body of Dr. Livingstone was recognized are to be placed in the museums of the Royal College of Surgeons, England, the Royal College of Surgeons, Edinburgh, and King's College, London.

ACCORDING to a law recently passed in Parliament, the question of pregnancy in a woman on trial for murder is no longer to be decided by a jury of matrons, but by competent medical authority.

## PROCEEDINGS OF SOCIETIES.

### BIOLOGICAL AND MICROSCOPICAL SECTION OF THE ACADEMY OF NATURAL SCIENCES.

JUNE 1, 1874.

DIRECTOR W. S. W. RUSCHENBERGER, M.D., in the chair.

DR. JOSEPH G. RICHARDSON read a paper on "The Value of High Powers in the Diagnosis of Blood-Stains," of which the following is a brief abstract: Observations of the writer, published five years since, have been apparently overlooked by recent authorities, notably Prof. A. S. Taylor, of London, in the new edition of his *Medical Jurisprudence*, so that further investigations seem necessary. The *a priori* arguments against the value of the microscopic test for distinguishing human blood from that of the ox, pig, sheep, horse, and goat, are—1, that the differences between the average size of their corpuscles are too minute to depend upon in a case of life and death; but this objection, valid as regards feebly magnified blood-disks, becomes void when these bodies are amplified 3700 diameters, on the same principle that a twelve-inch shell would never be mistaken for a six-inch shell, even by a careless person who would call a No. 1 a No. 5 shot; 2, it is urged that variations in the size of individual blood-corpuscles are too great and irregular, and too difficult to measure accurately, to render averages reliable; but according to the author's experiments



(especially one in which seven human red blood-disks whose mean diameter had been accurately determined by Prof. Theodore G. Wormley, in Columbus, Ohio, at  $\frac{32}{100}$  of an inch, were computed here in Philadelphia to average  $\frac{32}{100}$ , or only  $\frac{32}{100}$  of an inch less than their actual magnitude) this statement is incorrect; and 3, Virchow, Brücke, and their followers think that "a man's life should not be put in question on the uncertain calculation of a blood-corpuscle's ratio of contraction by drying," although a little consideration will show that this is not a fair statement of the point at issue, because, all the blood-disks likely to be mistaken for those of man being normally smaller, instead of contracting they would have to expand in order to become confounded with those of human blood; and as this expansion does not occur, the only mistake in diagnosis liable to take place is that we might possibly suppose that beef's blood was present when man's blood had actually been shed, so that at the worst we might contribute to a criminal's escape, but never to the punishment of a guilty person. To furnish a positive demonstration of the facts of the case, however, the writer obtained from each of his friends Prof. J. J. Reese and Dr. S. Weir Mitchell three specimens of blood-clot from the veins of a man, an ox, and a sheep, selected without his knowledge, and so marked as to furnish no clue as to which animal they were derived from. By the microscopical characters alone he was able to determine with perfect correctness the origin of every one of the six samples; the corpuscles of the human blood chosen by Dr. Mitchell, for instance, averaging  $\frac{34}{100}$ , with a maximum of  $\frac{31}{100}$  and a minimum of  $\frac{36}{100}$  of an inch; those of the ox-blood giving a mean measurement of  $\frac{46}{100}$ , with a maximum of  $\frac{43}{100}$  and a minimum of  $\frac{48}{100}$ ; whilst those of the sheep's blood afforded a mean of  $\frac{39}{100}$ , with a maximum of  $\frac{34}{100}$  and a minimum of  $\frac{44}{100}$  of an inch. From these and other experiments, Dr. R. concludes his results prove that, since the red blood-globules of the pig, ox, red deer, cat, horse, sheep, and goat "are all so much smaller than even the ordinary minimum size of the human red disk, as computed in my investigations, we are now able, by the aid of high powers of the microscope, and under favorable circumstances, to positively distinguish stains produced by human blood from those caused by the blood of any one of the animals just enumerated; and this even after the lapse of five years (at least) from the date of their primary production."

Dr. J. GIBBONS HUNT remarked that he thought these researches really contributed something towards scientific progress, and that it seemed as if the day was not far distant, if it had not already arrived, when we could actually decide, by the aid of the microscope, the important question of the true origin of a blood-stain.

Dr. JAMES TYSON observed that he had been much pleased with the paper just read, but would like to inquire whether admixture of the blood with foreign matters of various kinds, as is so apt to occur in criminal cases, would not so greatly interfere with the detection of blood-corpuscles as seriously to diminish the practical value of the process to a medical jurist. He believed that a weak solution of glycerin, on account of its slight viscosity, approached more nearly to the natural serum of the blood than did the .75 of one per cent. salt solution advised by Dr. Richardson, and, therefore, suggested a fluid composed of twenty fluidrachms of water, thirteen minims of glycerin, and one drop of carbolic acid, as a suitable menstruum for softening blood-stains.

Dr. RICHARDSON replied that the presence of other materials did indeed sometimes render the mechanical part of an examination of blood-stains more difficult

and tedious, but that when accomplished successfully the certainty of the diagnosis was in no wise impaired, since no intermingling with adventitious substances, such as hair or wool, cotton fibres, particles of carbon, or fragments of silica, would, except accidentally, alter the shape or size of the red disks. According to his experience, the most easily recognized blood-stains on clothing were those upon buttons or studs of metallic, pearl, or other hard material, and on paper collars or cuffs; next to these in facility of detection were spots upon starched muslin or linen. Stains upon unstarched linen were harder to discriminate, and the greatest amount of difficulty was met with in an attempt to diagnose stains upon dark or black woollen fabrics. In the recent murder-trial referred to in his paper, the spots were sprinkled upon the legs and feet of the prisoner's coarse cowhide boots, and, contrary to expectation, the blood-disks from these stains, five months after their production, had proved to be quite as easy to recognize and measure as those deposited upon paper collars or cuffs, and of course were very readily distinguished from the oval nucleated corpuscles of pheasant's blood, towards which the story told by the prisoner when first arrested seemed calculated to divert suspicion.

Dr. HUNT stated that Prof. Frey, in his work on the microscope, recommended a fluid called the Pacinian solution, containing a small proportion, about 4 grains to the ounce, of corrosive sublimate, for preserving blood-corpuscles, which would, no doubt, be useful in the manipulation of blood-stains. In regard to the use of high powers, his experience had been that serious loss in definition generally went hand in hand with gain in amplification, so that the more an object was magnified, the more difficult it became to measure it accurately with a micrometer.

Dr. TYSON said he quite agreed with his friend Dr. Hunt in this opinion, since his own experience with a great variety of lenses and eye-pieces to his microscopes led him to incline more and more strongly to the use of low powers.

Dr. RICHARDSON answered that so sure did he feel of being able to demonstrate the very marked difference between the corpuscles of dried clot from the various animals mentioned, under high powers, to skilled microscopists, that he would like Dr. Hunt and Dr. Tyson to be appointed on a committee to examine the subject with him and report at some future meeting; not that he expected to convince these gentlemen during such an investigation of his deductions from the facts observed, and especially of the correctness of his doctrine respecting the cellular structure of the red blood-corpuscles; on the contrary, he had no doubt that they would adhere for five years longer, at least, to Dr. Beale's view of the homogeneous, jelly-like nature, or to the German theory of a stroma-like sarcode and a fluid zoid constituent of the red disks; but he felt confident that he could demonstrate to their complete satisfaction that the outlines of human red corpuscles in a dried stain (whether jelly-drops, ækoid stromata, or cell-walls, it matters not to our present inquiry) are nearly twice the size of those of sheep's blood, and therefore readily to be discriminated from the latter when magnified with a power of 1800 diameters.

Dr. HUNT remarked that from the time when these corpuscles of human blood had been first seen by Leeuwenhoek, two hundred and one years ago, they have been the objects of almost constant attention from microscopists, and yet we cannot assert to-day that the structure, the size, or even the shape of the red blood-disk has been positively determined. He had himself seen these appearances in a moistened blood-clot described by the writer, under lower powers, but had placed a different construction upon them, and he was by no means prepared as yet to accept Dr. Richardson's



theory of a cell-wall. Not that he was disposed to undervalue the researches which had just been laid before the Section. On the contrary, as he had previously remarked, there was no doubt that they constituted a real advance in science. The fact that in six different cases the author of this paper had determined the kind of blood without a single error proved that his diagnoses were founded on actual and perceptible differences in the magnitudes of the dried corpuscles, as this accurate discrimination could certainly not in so many instances be the result of mere guess-work. But it should be remembered that Virchow and other earlier observers performed their investigations with inferior lenses. Had they worked with improved tools such as the  $\frac{1}{2}$ th and  $\frac{1}{10}$ th inch objectives used in these experiments, they would no doubt have made the same discoveries. For his own part, he would like very much to have seen some of the specimens referred to, and to have enjoyed an opportunity of verifying for himself the exact value of this high-power amplification and definition.

Dr. RICHARDSON remarked that he had more than once tried the experiment of showing objects under high powers at our semi-annual exhibitions, and he believed that he would be borne out by other members in the assertion that no one had expressed half the dissatisfaction with his efforts at demonstrating the advantages of a  $\frac{1}{2}$ th-inch objective in the hall of the Academy as had his friend Dr. Hunt. He would, however, be very happy to exhibit specimens from these samples of blood-stains at his own house to any of the members present who were specially interested in the subject.

Dr. HUNT replied that the usual summer attendance upon our meetings was so small that he thought the number of members could not decently be urged as a bar to such a demonstration as he had referred to and was desirous of witnessing.

Dr. TYSON suggested that this very difficulty of showing the corpuscular forms publicly—as, for example, to jurors in a court-room—would prevent its being really and practically valuable for the diagnosis of blood-stains in medical jurisprudence.

Dr. J. H. McQUILLEN remarked that some years ago, when engaged upon an extended series of experiments to determine the action of anæsthetics upon the blood-corpuscles, he had examined with low and moderate powers of the microscope the blood of man and of a large number of animals, and also blood-stains in murder cases that had been handed to him by his friend Dr. R. J. Levis. The result of these examinations had made him hitherto very skeptical about the possibility of distinguishing the blood-corpuscles of domestic animals from those of man. He could not, however, deny the value of the experiments just described, and accepted them as conclusive evidence of the possibility of determining this important point. It would, of course, require corroborative evidence on the part of other experienced microscopists where the life of a human being was at stake, but the arguments which had been presented relative to the difficulty of making microscopical demonstrations that would be satisfactory to a jury, although plausible, were open to decided exceptions. He had no manner of doubt that expert testimony grounded on investigations carried on by the observer in the seclusion of his laboratory would be accepted by our judges as valid evidence, even if the expert could not demonstrate his experiments in a crowded court-room. Were it not so, it seemed to him that the whole system of depending upon experts was an error, for who, indeed, was an expert witness but a man who, in consequence of special study of a subject, was better qualified to form an opinion in regard to that subject than were persons ordinarily engaged in other pursuits?

In connection with this matter, he was reminded of an

error that had attracted his attention some time since, when looking over Taylor's Medical Jurisprudence, in the citation of a case in which a man who had been arrested for the murder of an old woman accounted for the blood found on his clothes by stating that he had robbed a hen-roost on the night of the murder, and wrung the heads of the chickens off. The work referred to states that "Dr. Leidy testified from a microscopic examination of the blood alleged by the accused to be chicken-blood that the assertion was false, and the blood was that of a human being."\* The correct version of the testimony of Prof. Leidy was that the blood was that of a mammal, and not of a chicken, but he *did not* feel warranted in saying it was human blood when the life of a fellow-being was at stake.

Dr. J. G. HUNT exhibited a specimen of the common nettle-leaf (*Urtica*) in which the cystoliths were colored blue *in situ* without any dissection, whilst the remainder of the leaf was tinted violet. He remarked that this double staining of a vegetable tissue in two different colors was an example of a kind of manipulation never, he believed, before attempted or accomplished in the annals of microscopy. It seemed to him that such a capacity for absorbing different dyes indicated that the various portions of the structure were in different vital, or perhaps merely chemical, conditions at the time of their preparation.

#### MEDICAL SOCIETY OF THE COUNTY OF ALBANY, NEW YORK.

SEMI-MONTHLY MEETING, APRIL 22, 1874.

The PRESIDENT, DR. JOHN SWINBURNE, in the chair.

DR. WILLIAM HAILES reported the following case of *cancer of the liver*. A. B., colored, æt. 75, laborer, came under observation during the latter part of February. He had always enjoyed good health until within the last few months, and it was only within a few weeks past that he manifested much concern in reference to his condition.

He was enabled to work within a month of his death. When first examined, the following symptoms were noticed. Considerable pain was experienced in breathing, followed by a smothering sensation about the region of the heart. His abdomen protruded, and a well-defined tumor occupied a space behind the lower part of the sternum, causing a marked protrusion of the ensiform cartilage upon pressing upon it. The tumor was nodulated, and tender upon pressure, causing spasmodic respiration by embarrassing the action of the heart from pressure. The sounds of the heart were masked, and indicated effusion within the pericardial sac. There was a slight amount of anasarca.

His appetite was good, and his bowels were regular.

The treatment consisted in relieving pain by anodynes, with a nutritious diet.

The symptoms day by day became more aggravated. He died April 2.

*Autopsy.*—An examination of his abdominal viscera revealed an extensive cancerous disease of the liver, involving both lobes of the organ. It descended a little below the margin of the cartilages of the false ribs, but its greater encroachment was in an upward direction towards the left side, pressing upon and impeding the action of the heart and lungs.

The left lobe of the liver completely filled the hypo-

\* A Manual of Medical Jurisprudence, by A. S. Taylor. Edited by Clement B. Penrose, 1866, page 249 (in Commonwealth vs. Armstrong, Philadelphia, 1860).

chondriac space. The stomach and spleen were depressed far below their accustomed space.

The cancerous growth of the liver had gone on to ulceration, and presented a raw and bleeding surface, from which had oozed a large quantity of blood, which was found either floating in clots, or mixed with the serum in the peritoneal cavity.

Section through the organ revealed numberless nodules of a yellow color projecting from the surface, and also occupying deep situations in the liver-tissue.

The liver weighed twelve and a half pounds.

A cancerous mass, about the size of a small orange, was found in the coats of the stomach on the greater curvature, an inch and a half from the pyloric orifice, and was of firm consistence. There were also numerous enlarged and indurated masses scattered over the surface of the great omentum. The mesenteric glands were also considerably involved. From the facts presented, what was the origin of the growth? Did it originate in the liver and extend from this to other organs, or did it first appear in the stomach and from this extend to the surrounding tissues?

We are told that cases of cancer of the liver are of rare occurrence, and that they are usually the sites of secondary growths; that in the majority of cases the stomach is primarily affected, and that it is very unusual for the liver to take on malignant action. Dr. Hailes concluded that the liver was invaded first, from the fact that the disease had made so little headway in the other organs. The hemorrhage seemed to be the immediate cause of death.

The doctor said that there were three ways by which malignancy may infect tissues: 1st, by direct influence upon the adjacent structures; 2d, through the medium of the lymph; 3d, through the medium of the blood. It would seem in this case that it was by the second method that these tissues became involved,—inasmuch as it was confined to so limited an area.

Both kidneys contained numerous cysts; the left having one fully as large as a turkey's egg, besides a number of smaller ones.

Dr. WILLIAM H. BAILEY made the following report of a case of *cancer of the stomach and liver, with peritonitis*. William N. L.; æt. 49; occupation, night-watchman. Early in January, three months ago, he began to notice that he was losing strength. At the same time, pallor of the face appeared, and he had some pain in the stomach, but not so severe as to render it a prominent symptom. He vomited his food occasionally.

The asthenia was most marked. These symptoms came on gradually, increasing until his coming under treatment, March 16.

Further questioning elicited the fact that he had had pain in the epigastrium, with occasional vomiting, for a year back.

He has travelled extensively in all climes, and was in the Army of the Potomac during the war. He had contracted no disease, only receiving an injury in his left eye in the army from a limb of a tree, which destroyed the organ. He has always been a strong, healthy man, excepting that several years ago he contracted intermittent fever, while living adjacent to the city, but recovered on changing his location. His family history was not obtained. Condition when he came to the office for treatment, March 16: His pallor is very marked, there being a yellow tinge. He says he is very weak, and can hardly keep about, being compelled to sit frequently. There is some pain in the stomach, but the symptoms of disease of this organ are none other than might be referred to a moderately severe case of dyspepsia. Examination about the epigastrium reveals nothing. The liver is of normal size. A constant systolic murmur is heard over the heart, plainest at the base,—a roughened, blow-

ing sound. The action of the heart is regular. There is no enlargement of the spleen or of the lymphatic glands, these being examined with a view to the possibility of the case being one of leucocythæmia. With the same idea, the blood was examined microscopically, but no increase of white blood-cells was detected, though the examination was not altogether satisfactory. On the 21st of March he sent word that he was unable to visit the office. The night previous, he vomited freely a brown, coffee-colored fluid, which was noticed as being much more abundant than the ingesta. There was not much pain, and when visited in the morning he was seemingly quite comfortable. For four days he improved, having little pain, though vomiting frequently, and, although weak, was able to walk a few blocks. His vomiting was relieved by a mixture of sweet spirit of nitre, paregoric, and soda, and small quantities of fluid food were retained.

His countenance was always cheerful. On the morning of March 25 he felt better than any time since the 21st. His chief complaint being debility at this time, his blood was examined microscopically; the least attempt to take food provoked an attack of vomiting; his cough then set in and continued all night, in spite of remedies, leaving him prostrated in the morning. He craved cold drinks constantly, which aggravated the vomiting.

Dr. Swinburne was now called in consultation. He was inclined to believe a little thickening could be detected at the epigastrium.

The symptoms, however, left no doubt in the minds of the physicians who saw him that the malady was cancer of the stomach. After the 25th, the pain was much more marked and constant, with more tenderness on pressure. He retained his cheerfulness throughout.

There was no febrile action, prostration and pain expressing all his symptoms for the next three days, at the end of which he died.

*Autopsy*, twenty-four hours after death.—There was pallor of the whole body, no waxy or dusky tinge being observable. Emaciation was marked, and the muscles were very flabby. But little rigor mortis.

On opening the abdominal walls there was found over the stomach a quantity of thick, yellow pus, and there was evidence of peritonitis affecting the gastric and diaphragmatic peritoneum. A cancerous mass surrounded the pyloric end of the stomach, extending along the lesser curvature for one-third of its length: this appeared broken down on the external surface, a spot of the size of a silver quarter having the look of an ulcer. This was probably the cause of the peritonitis. On the inner surface of the stomach there was still more breaking down of the cancer-tissue. The pyloric orifice was open, admitting the passage of the little finger.

The stomach was greatly distended, and contained two quarts of coffee-colored fluid. This mass of diseased tissue was about the size of the first, and was completely covered in front by the left lobe of the liver. The whole mass was very firm. Part of the pancreas was adherent and included in it. There were also deposits of cancer-matter, of the size of a walnut and less, throughout the liver. These seemed comparatively recent, and none of them protruded above the surface of the organ. The liver was not enlarged; weighed three and a half pounds. One mesenteric gland was enlarged and very hard; calcareous.

Other abdominal organs were entirely healthy; the spleen quite normal in size and structure.

The heart was somewhat enlarged, and there was a patch of atheromatous deposit on its surface. The coronary artery was entirely calcified. The aortic valves were not competent, and were thickened. A fibrinous clot, sixteen inches long, extended up the aorta.

The lungs were healthy. The brain was also found healthy.

The deposits in the liver and stomach were examined by Drs. Vanderveer and Balch, and found to be true cancer.

In this case the diagnosis, though quite certain towards the last, and placed beyond a doubt by the autopsy, was somewhat marred by the absence of one or two almost constant symptoms of the disease.

There was no tumor of the epigastrium. This is said by Da Costa to be the only symptom at all distinctive of cancer of the stomach. The case is very instructive, not only in the absence of this symptom, but in the cause for its absence being found. The thin left lobe of the liver covered the cancer completely, preventing all possibility of any evidence of the tumor, which really existed, being obtained by palpation.

Pain is usually another symptom, and perhaps as constant as any other next to tumor.

This peculiar pain of cancer,—lancinating, piercing, sharp,—which we feel ought to be experienced in all cases of cancer-growth, is not always present when the deposit is in the stomach-walls. In fact, I believe the general verdict is that there is nothing distinctive about it here. It was not augmented by food, I believe: so far as the stomach-symptoms went there was little to indicate the existence of anything more than chronic indigestion or subacute gastritis, the latter being rendered more probable by the fact of his having been a rather intemperate man. As concerns this symptom of pain, it was not made prominent at all by the patient in giving his history. Vomiting was a symptom from the first. This was more characteristic of the disease than either of the others mentioned, especially considering the nature of the matter ejected. Persistent vomiting is suggestive of cancer, but not diagnostic. Cases are mentioned of thickening about the pyloric orifice causing it, and so also do *sarcina ventriculi*, pregnancy, sometimes ulcers, etc. But I suppose that, in cases of irregular vomiting lasting several months, cancer should be first thought of. The coffee-ground matter, too, is, if thrown off for a long time, characteristic. In gastric ulcer, blood is vomited in abundance if at all, and not in this particular form. The pallor exhibited in this case is indicative of the cancerous cachexia; so, too, it is of anæmia. There was nothing peculiar about it; nothing of the yellowish tinge spoken of as that of this cachexia.

The marked weakness, which was one of the three prominent symptoms from the first, had nothing in it peculiar to cancer. It was this weakness, with the pallor and the heart-murmur, which was at first thought to be anæmic, which led to the thought of leucocythæmia. But examination detected no enlargement of the spleen or liver, or of the lymphatic glands, and no increase in the number of the white blood-cells was found by the microscope.

Taken together, the pallor, the continued vomiting of coffee-colored fluid, and the tired feeling or weakness, may be looked on as sufficient upon which to base a diagnosis of cancer of the stomach, even in the absence of any marked pain or of the tumor in the epigastrium usually spoken of as the most constant symptoms of cancer of the stomach.

Dr. JAMES S. BAILEY gave the following report of a case of cancer of the pancreas, liver, mesentery, and uterus. C. B., German, æt. 36, mother of five children, the youngest 3 years old. She menstruated at the age of 14, and was always regular and enjoyed good health until November last, when she visited the cemetery while her catamenia were upon her. She sat on a cold, damp stone, and walked through the wet grass; she contracted a cold, and her menses ceased. She was seized with pain in the back and abdomen, which

resembled labor-pains. She still menstruated regularly until in February, when it ceased. Since that time she suffered more pain, particularly after eating.

The abdominal recti muscles were separated from over-distention, and two ridges were seen longitudinally over the region of the ovaries. She rapidly emaciated, and experienced a throbbing sensation in the left inguinal region, as if an abscess was forming. She complained of great weight on standing. Simpson's sound, being introduced, revealed the length of uterus to be two inches. Its mouth was flabby and open; and on the anterior and posterior portions were plainly felt tumors of some size.

There had been a tendency to constipation; there was also a smarting, burning sensation in the region of the womb.

My first visit was made June, 1873, several other physicians having attended her previously. She died in July.

*Autopsy*, twenty-four hours after death.

Body much emaciated. Rigor mortis marked. Skin had a general cachectic appearance. The right lung was bound down with numerous adhesions to the costal pleura, and the cavity on this side contained eight ounces of serous effusion. Left lung normal. Pericardial sac contained a small amount of serum. Stomach healthy.

On the outer border at the bifurcation of the trachea there was a deposit of carcinomatous matter, which on pressure exuded a blackish-looking fluid. The pancreas was imbedded in a homogeneous mass, having the appearance of malignancy. The mass was hard and indurated. There was also a constricted mass in almost the whole of the mesentery; in such small portions of the mesentery where a like condition was not evident, the glands were enlarged and softened. The colon and meso-colon contained upon the anterior coats a similar mass. The walls of the ascending colon were considerably thickened, and deposits of the same character were found in them constricting the intestinal canal.

The liver was small and pale, with normal capsule. In the upper part of the right great lobe there was a circumscribed portion, about one and a half inches in diameter, of a like character with that found in the mesentery and intestine. The kidneys were small and flabby, otherwise normal.

The peritoneal cavity contained about a pailful of a greenish-looking fluid.

Upon the anterior and posterior aspects of the uterus was found a mass of like character to that found in other parts of the body. The recto-vaginal tract was filled with the same mass, being felt through the rectal walls as a hard indurated tumor. The same condition was found behind the peritoneal layer of Douglas's cul-de-sac.

The left ovary was normal; the right ovary hard and indurated, and about two inches in diameter. On its upper and outer sac it contained a small cyst, the walls of which were easily ruptured.

Bladder empty.

*Microscopical examination.*—Several specimens were examined from different organs. Large giant-cells were found, and the diseased condition is evidently of a carcinomatous nature.

Dr. ALBERT VANDERVEER reported the following interesting cases of cancer, and exhibited the pathological specimens.

*Case I.*—*Cancer of the Stomach.*—M. C., married, æt. 71, temperate habits for the last twenty years, had had occasional sharp pains in the region of the stomach, and at times would vomit food. Yet he considered that he was in good health, and was enabled to attend to his business,—that of a carpenter.



I saw him first January 10, 1874. He has been in decided ill health for the past year, failing in flesh and strength, suffering severe pains in the stomach, and most of the time vomiting his food. For the past month his stomach has not retained anything, and only during that time has he been confined strictly to his house. He appears very much emaciated, and extremely pale and cachectic.

In the epigastric region I can define a hard tumor the size of a goose-egg, painful to the touch, producing when handled a sensation of extreme weakness and a desire to vomit.

Some œdema of the feet. Lungs and other organs appear healthy. Urine examined: specific gravity 1020, acid; no albumen, and a fair quantity passed in twenty-four hours. Ordered small doses of morphine, to be administered with a bitter tonic, also subnit. bis. and pepsin.

The latter acted well, but he could not bear the tonic and anodyne. There was no improvement in his case,—none was expected. Death occurred on January 19, 1874.

*Autopsy*, twenty-four hours after death. Rigor mortis marked. Decided emaciation; no general anasarca; slight swelling of the feet. Lungs and heart in a healthy condition. Very light pleuritic adhesions, and slight atheromatous change in inner coat of large arteries.

The coats of the stomach, from the cardiac to the pyloric opening, were thickened in some places as much as two inches; the deposit scirrhus in character. The cavity of the stomach was almost completely obliterated, and yet the passage through its orifice continued open.

It could not hold more than an ounce of fluid. In some places the mass had softened, and presented points of ulceration. The great omentum was filled with hardened masses, from the size of a pin's head to that of a cherry. Spleen normal; capsule shrunken; adhered decidedly to great end of stomach. Pancreas not diseased. Liver normal. Kidneys normal. Intestinal canal from pyloric orifice to anus in a healthy condition. Slight effusion of serum in peritoneal cavity. Scrotum on examination presents double hydrocele, and on a more careful examination each testicle is the seat of a cancerous deposit; the one on the right quite large. Head not examined.

*Case II.—Cancer of the Stomach.*—L., married, æt. 62, good habits, always in excellent health excepting one severe attack of cystitis ten years ago, but after six months' illness made a good recovery. Came to the office December, 1872, presenting a decided case of jaundice, for which he desired treatment. Gave him alteratives alternately with tonics until January 12, 1873, without any improvement in his case. Constant failing in strength and flesh, with little vomiting. Has continued to work until the present time.

Decided to stop work, remain home, and seek other medical advice. A careful examination revealed decided tenderness over the liver, but did not detect any tumor in the epigastric region.

April 21, 1873, again solicited to see the patient with his attending physician; in the interval he has consulted many doctors, but his disease has been gradual and certain in its advance. Is a mere skeleton in appearance, and very weak; presents the same deep jaundiced condition as when last seen. It is difficult to define the borders of the liver; a hardened mass is felt over the region of the stomach. Of late he has vomited everything. Urine on examination is found loaded with bile, and is scanty in quantity. Died April 25, 1873, from inanition.

*Autopsy*, eighteen hours after death. Muscles rigid,

—what little is left of them. Encephalon not examined. Organs of the thorax healthy.

The pyloric end and about one-third of the stomach were found to be the place of deposit of a cancerous mass as large as a good-sized orange, flattened. The pyloric orifice of the stomach was closed from the inflammation and ulceration present. The cancerous mass also enclosed a portion of the pancreas, all the vessels going to and from the liver, and a portion of the duodenum. The liver was about half its natural size, and filled with nodules of cancerous growth. The gall-bladder was shrunken, containing about one drachm of bile. Spleen very small, but healthy. Omentum studded with hardened masses of various sizes. Kidneys healthy; no traces of inflammation about the bladder. Testicles not examined.

*Case III.—Cancer of the Testicle.*—W., æt. 65, has suffered for the past fifteen years from hydrocele on the left side of scrotum. Has been tapped many times. During the past year the testicle has become quite hard, much enlarged, and pains him constantly. His general condition has been good, but now, from want of sleep and the intense pain he suffers, he is failing in strength. Is willing to undergo any operation that will promise relief. Has a large scrotal hernia on the same side. In consultation with his attending physician, Dr. Newcomb, October 12, 1873, we decided to remove the testicle, which was done. The rupture gave us some trouble, but, notwithstanding, the patient made a good recovery in three weeks.

The testicle is as large as a goose-egg. The tunica vaginalis is very much thickened, but the inner part of the mass is found on microscopic examination to be encephaloid in character. The structure is so changed that it is impossible to define any portion of the testicle proper. The patient at the present time remains in good health, with no symptoms of the disease returning.

*Case IV.—Cancer of the Liver and other Organs.*—M. A., æt. 44, married, mother of four children, usually in good health. Lost the left eye from disease two years ago. Family history good. Not well nourished; is over-anxious to provide a home for herself and family, and denies herself much in food. Is somewhat jaundiced; bowels constipated, with failing strength, yet does her own house-work; menstruates regularly; is troubled much with nausea; is growing thin in flesh, and does not sleep well, and complains of much pain in the right side.

On examination, a distinct enlargement of the right lobe of the liver can be felt, extending downward and inward towards the umbilicus. Is very hard to the touch, and percussion gives acute sickening pain. No disease of any other organ can be detected. Ordered tonics, nourishment, rest, and anodynes sufficient to relieve pain. Was called to attend the patient August 17, 1873. At November 1, the patient had continued in about the same condition, but occasionally vomited her food. The enlargement had extended down towards the inguinal region, and on a level with the navel.

February 1. Has just passed a menstrual period, but is now not able to leave her bed; is much emaciated; skin darkly jaundiced; can retain but little food in her stomach; suffers greatly from pain. Enlargement is much increased, and of a stony hardness.

Bowels move once in four days; fæces of a light clay color. Urine is passed quite freely, and is high-colored. A tumor about the size of a butternut can be felt in the left breast, also one much larger surrounding the sternal end of the left clavicle. These tumors feel very hard, and give her much suffering. Death occurred March 16, 1874. She did not menstruate after February 1. Is a mere skeleton; all of the soft tissues

are apparently absorbed. Has been able to retain but little of anything in her stomach for the past three weeks; bowels not moved during that time.

The enlargement of the liver fills almost the entire abdominal cavity. The tumor in the left breast has increased in size, while the breast itself seems entirely absorbed: in fact, the tumor and nipple are all that can be defined. The tumor of the clavicle has included the greater portion of the bone. Another tumor, of the same stony hardness, has developed in the right breast. The jaundiced condition of skin has increased. She appears much like one suffering from an attack of Addison's disease. The flow of urine has been very scant of late. Mind was clear until death.

Though every inducement is offered, and every argument advanced, yet the consent of her family to hold a post-mortem cannot be obtained. Case believed to be one of cancer of the liver and other organs.

*Case V.—Cancer of Duodenum and Pancreas.*—Mrs. C., æt. 49, had enjoyed good health up to two years ago last May; Dr. Vanderveer saw her for the first time, July 29, 1873. Her menstrual periods then ceased, and she noticed soon after that her food, after eating, gave her some distress. She was married, and was the mother of two children, both living. An aunt died of some cancerous affection; her family history is otherwise good. She appears pale, and has an anxious expression.

Ten months ago she began to vomit food, with also a black, coffee-colored fluid in large amounts; and for the last two months this has been a very troublesome symptom. The bowels are constipated; there is considerable pain in the epigastrium and the right hypochondriac region. A distinct tumor can be felt at the lower end of the pyloric orifice of the stomach. The urine is normal. Ordered subnitrate of bismuth, and enemata to empty the bowels twice each week, with anodynes to relieve pain.

December 1, 1873. Mrs. C. has been more comfortable, does not vomit so much, and gets more rest, but is failing in strength and flesh. There is a decided cachexia present; a marked yellowness also of the skin, more prominent at times. Takes very little food. From this time until death, she was kept quiet by morphine.

There was no more vomiting, although she ate freely.

*Post-mortem* held January 30, 1874.

Rigidity well marked; body extremely emaciated; mesentery attached to abdominal walls; stomach partially filled with liquids, apparently healthy throughout its whole extent. There is a hard mass, the size of a turkey's egg, about three inches below the pyloric orifice of the stomach in the duodenum, including its walls; also a portion of the pancreas. Left lung adherent; cicatrix in the apex of left lung. Cicatrix in upper part of right lung. Edges of liver rounded; parenchyma normal. Small amount of effusion in pericardium. Heart normal. Kidneys normal. Encephalon not examined.

Microscopical examination of diseased portions shows an abundance of giant-cells with nidus and well-marked stroma.

*Case VI.—Cancer of the Stomach.*—Mrs. V.; æt. 66; widow. While attending another member of the family, my attention was called to her condition, September, 1872. Has been confined to the bed for the past two years, and for the three years previous had been troubled with dyspepsia, as she had been told. Accounts of family history not clear, nor of the time of her change of life. Is now too feeble to give her history. Is merely skin and bone. For the past two years has vomited much dark-looking fluid and the most of her food. Her daughter states that for the past two months she has absolutely refused to take anything into her

stomach, dreading the vomiting and distress that followed. Is sure that she has not taken an ounce, all told, in that time. A hardened mass can be felt at the pyloric end of the stomach. Bowels not moved in two months. Died November 1, 1872.

*Post-mortem*, twenty-four hours after death. All of the organs in the body were in a healthy condition, except the pyloric orifice of the stomach, and this was closed and surrounded by a hard scirrhus growth, not larger than a butternut, and not yet in a state of ulceration, but completely closing the stomach.

*Case VII.—Cancer of Œsophagus.*—W. M., æt. 62, April, 1873, came for treatment for inability to swallow. On examination with œsophageal tube, could detect a decided stricture about four inches down, through which only the smallest-sized bougie will pass. Looks pale; has lost in flesh, and is weak. Œsophageal bougies of various sizes were passed twice a week, until the largest could be passed. The relief was marked up to June 10, 1873, when, in withdrawing the largest one, he complained of some pain and raised a trifle of blood, while in the shoulder of the instrument could be seen several pieces of a fleshy-looking substance, which was examined under a microscope, and exhibited small cells and spindle-shaped cells, with nuclei, after which the use of bougies was discontinued. When informed that his case was believed to be one of cancer, he became disheartened, and begged to have the instrument passed for temporary relief. Was confined to his house two months previous to his death, not able to swallow much of anything. Suffered some pain, though it was not acute. No family history obtained.

His habits had been bad for the greater part of his life, and for the last ten years he had been a steady drinker.

*Autopsy.*—Cachectic appearance; body emaciated; abdomen collapsed; rigidity marked. The right elbow-joint much enlarged. Several of the costal cartilages are ossified.

*Thorax.*—There are adhesions of the upper and posterior portions of right lung to the pleura costalis. Two ounces of effusion in right pleural cavity. Right lung crepitant and healthy throughout its whole extent. Four ounces of effusion in left pleural cavity. Left lung not adherent at any point; parenchyma healthy throughout the whole extent. Some hypostatic congestion.

In about the middle of the œsophagus the walls anteriorly and laterally are ulcerated through, excepting a small band of tissue which divides the two. The pyloric and cardiac orifices of stomach healthy. Stomach contains about 3ii of a dark, grumous-looking fluid. Coats normal. Pericardial sac contains about an ounce of serum. Heart normal in size. Parenchyma firm; semilunar valves normal; mitral valves healthy; considerable atheromatous change in the descending aorta. Large fibrinous clots extending from the right auricle into the right ventricle and into the arteries. Tricuspid valves healthy.

*Abdomen.*—Liver nine inches long, seven and a half inches broad, three and a half inches thick. Hepatic tissue atrophied and yellow in appearance; appears shrunken and hob-nailed; edges rounded and shrunken. Gall-bladder full; spleen much enlarged, seven inches long, four and a half inches wide, two inches thick. Its surface is studded with small prominences. Some of the mesenteric glands are somewhat enlarged and of a dark, congested appearance. Left suprarenal capsule healthy. Left kidney normal in size. Cortical portion appears granular and roughened. Capsule thickened and adherent at points. Right suprarenal capsule is abnormal, and contains numerous deposits. Right kidney of the same general character as the left one. Bladder contracted.

Microscopical examination of diseased portion of œsophagus reveals it to be encephaloid in character.

*Case VIII.—Peritonitis from Ruptured Ovarian Cyst.*—Dr. John M. Bigelow was called, March 6, to see Mrs. W., æt. 58. She had been complaining of great pain in the right iliac region for seven or eight days previously. Her symptoms pointed to peritoneal inflammation, as indicated by tympanitis and pain and tenderness on pressure, with the symptoms usually found in diffusive peritoneal inflammation.

From the time the first symptoms were manifested until death took place, was twelve days.

*Post-mortem* made by Dr. A. Vanderveer. Head and organs of the thorax not examined. There was an immense deposit of fat in the abdominal walls. A crucial incision was made, and on turning back the flaps the intestines were observed to be greatly distended with gas. The great omentum extended down, and was adherent, by recent bands of false membrane, to the upper surface of what we first supposed to be a distended bladder. The lower portion of the omentum was very much discolored with recent infiltration of blood. The folds of the small intestines in the right inguinal region were adhering together by lymph, the result of recent inflammation. No deposit of pus found elsewhere, nor any other distinct signs of peritonitis.

On separating the lower part of the omentum from the supposed distended bladder, the latter was found to be an ovarian cyst from the left broad ligament. The pedicle was about three inches in length, and twisted upon itself; in the act of twisting, a blood-vessel had been ruptured, and the blood had infiltrated the walls of the cyst and the lower part of the omentum.

On opening the cyst, it was found to contain a quart of bloody-looking fluid, which does not coagulate on standing. Other organs of the abdomen healthy. The peritonitis undoubtedly resulted from the twisting of the pedicle of the tumor and effusion of blood from the ruptured blood-vessel.

## REVIEWS AND BOOK NOTICES.

A TREATISE ON FOOD AND DIETETICS. By F. W. PAVY.

This volume of nearly six hundred pages certainly affords sufficient space to say all that is at present worth saying in regard to the medical aspects of the food-question. The literary work is well done; the style, though not strikingly terse, is free from verbosity, and there are many parts which are worthy of high commendation from a scientific stand-point,—notably the general discussion on the rôle played in the economy by the nitrogenous alimentary principles and by the carbohydrates. We must, however, state our conviction that the book does not fill the want that exists for a complete, thoroughly scientific, and practical work upon the subject. It contains an enormous amount of very curious but utterly useless facts, and omits very many things that are of the utmost importance. The long chapter, for example, upon "Animal food sometimes but not ordinarily eaten," shows a very wide range of reading in its author, but seems to us of no practical value. What use is it at the bedside to know that a black man tastes more salt than does a white man, and is therefore better eating, or that monkeys are eaten by the Chinese, the natives of Ceylon, the Indians, and so on through a long list of tropical savages, white and black and copper-colored? In the same way the chapter upon "Fruits" is largely wasted space. We

do not want to be misunderstood: if a scientific author chooses to put such material in his book, we do not complain; it has a curious interest, if not a practical value. What we object to is the omission of matters of vital importance, and the stuffing of space, which their discussion ought to occupy, with the merest padding for an idle moment. In the work before us some of the most vital subjects of the hour are avoided, and their place filled up with these jottings of desultory reading. Practically nothing is said in regard to the value or want of value of beef-tea, or the physiological action of tea and coffee, and the discussion on alcohol is almost childish in its feebleness.

We do not want to be too severe upon the work of Dr. Pavy, or in any way to express an unfair judgment, but we think those of our readers who are acquainted with Dr. Letheby's little volume upon the same subject will agree in believing that it contains at least as much of value as its very much larger and more pretentious rival. In conclusion, we may express the hope that when the present work reaches its second edition the author may well use the great room there is for improvement, and bring the whole volume to the level of the parts first mentioned in this notice; and when this is done, the emended book shall have our highest praise.

THE PRIZE ESSAYS OF THE BOYLSTON MEDICAL SOCIETY FOR 1874. I. Experiments on the Action of Bile in Promoting the Absorption of Fats. By CHARLES H. WILLIAMS, A.B., of Boston. II. On Intestinal Digestion. By G. M. GARLAND, A.B., of Lawrence. Pamphlet, 8vo, pp. 26, with Two Plates. Reported from the *Boston Medical and Surgical Journal*.

In these essays we have some of the first-fruits of the new method inaugurated scarcely three years ago at the Harvard Medical School. They emanate more directly from the Physiological Laboratory of the school, under the direction of Dr. H. P. Bowditch, Asst. Prof. of Physiology. They are creditable alike to the school, Dr. Bowditch, and their authors.

We have not space to describe the process or apparatus used, though in the case of the first subject both are somewhat different from those employed by previous experimenters, but append the conclusions. Those of Mr. Williams are as follows:

1. That the passage of neutral fats through capillary canals or pores is favored by the presence of bile in these pores.
2. That this action is increased when the bile is rendered alkaline, and diminished when it is acid.
3. That the action cannot be due to the bile changing the form of the pores.
4. That after passing through membranes moistened with bile, the fats appear more finely divided than with membrane wet with other substances, apparently showing that the drop-tension or cohesion of the fat has been affected.

II. Mr. Garland followed Thiry's method of isolating a portion of intestine by excision and leaving its attachment to the mesentery intact.

Like Thiry, he found the quantity of intestinal juice secreted by the isolated loop exceedingly small,—from five to fifteen drops in an hour.

From experiments with the juice he concluded—1, that intestinal juice converts starch into sugar; 2, its action upon boiled white of egg is doubtful; 3, whether alkaline or acidified, it exerts a solvent influence on fibrin; 4, its action was increased by combining it with a 0.2 per cent. solution of hydrochloric acid, while Thiry declared that intestinal juice when acidified ceases to act upon fibrin; finally, he observed that fibrin was converted into peptones by the action of hydrochloric acid alone.



**ANATOMY OF THE INVERTEBRATA.** By C. TH. V. SIEBOLD. Translated from the German, with Additions and Notes, by WALDO I. BURNETT, M.D. James Campbell, Boston, 1874.

This book appears to be a reprint from stereotype plates of the well-known translation of Von Siebold which appeared in 1853; the original German edition having been published in 1848 or 1849. The book is too well known to need comment from us, but we can commend it to every one who is desirous of posting himself upon the subject treated of as known a quarter of a century ago.

**PAPERS CHIEFLY ANATOMICAL.** By BURT G. WILDER, M.D., Prof. of Comp. Anat. and Zoölogy, Cornell University, New York. Salem, Mass., 1874.

These memoirs are of the purest science, and therefore, although most creditable, and a just source of pride to every American, have but little interest to the "busy practitioner." The only one directly connected with medicine is upon a double human monster, with a very interesting note and figure of a dicephalous Peruvian mummy.

## GLEANINGS FROM OUR EXCHANGES.

**THE PREVENTION OF HYDROPHOBIA.**—*The Lancet*, in its issue of May 23, editorially discusses the question of the best means for securing the public safety during the season when rabies is prevalent among dogs and other animals. The discouragement of the breeding of useless dogs, by a rigid system of licensing and the compulsory use of numbered collars, would do much towards diminishing the number of accidents. It has been proposed to render dogs harmless by cutting off and filing down their canines and incisors. Experiments have shown that when rabid dogs, whose teeth had been filed down, were allowed to attack healthy animals, no communication of the disease occurred, and the author of the system (M. Bourrell) claims that its general adoption would extirpate hydrophobia, by rendering its transmission impossible. The use of the muzzle should be vigorously enforced, but it should be of such a description as to admit of free respiration and the exposure of the tongue to the air.

The most effective preventive measures are perhaps those which could be easily applied by owners of dogs if a reasonable watchfulness were exercised and the animal were placed under restraint on the first appearance of premonitory symptoms.

For days before a dog becomes savagely rabid he manifests certain peculiarities of demeanor, hiding in obscure corners, swallowing indigestible substances, sometimes gazing intently as though watching the movement of some object on the ground, now and then snapping at anything which is presented to him, and altogether behaving with an eccentricity which attracts notice, although it is seldom referred to its cause. After a time the dog is missed suddenly, and never seen again. The owner deploras the loss, and never suspects that the creature, in obedience to a restless impulse, has rushed away on its mad career, and, if it has escaped the sticks and stones of the excited populace, has at length crawled into some dark place and died. It is not much to ask of owners of dogs that, in the interests of the community, they should remember the possibility, to say the least, of these animals becoming the subjects of a terrible malady, which, being communicated to man, is certain to result in death in the most hideous form: lifelong regret will not compensate for a calamity which watchfulness might have prevented.

**ANTIDOTE OF RABIES** (*The Lancet*, June 6, 1874).—Dr. Jitzki communicated, in January, 1874, to the Imperial Society of Wilna (Russia), a fact of some interest. A very savage dog was in the habit of killing vipers (*Coluber berus*), and his mouth and neck were covered with wounds inflicted by the vipers. This animal was bitten by a mad dog which had already bitten several horned cattle and a dog; these all perished in a rabid state. The owner of the first-mentioned dog, not wishing to destroy him, determined, however, to watch him, and made up his mind to kill the poor animal at the first symptom of rabies. Nothing, however, happened, and the dog remained quite well.

This case struck Dr. Jitzki, especially as he learned that a woman of the same locality had been bitten by a viper and some time afterwards by a mad dog without suffering from hydrophobia. He was thus led to suspect that there is antagonism between the virus of hydrophobia and the virus of vipers. If this were true, young dogs might be inoculated with the latter virus, and thus be made insusceptible to hydrophobia.

**FORK-SWALLOWERS.**—"L'homme à la fourchette est le héros du jour." This seems the opinion of the French press, and the case itself is of interest and has given the excuse for the recital of numerous similar cases. He is a lad of 18, a shop-boy, who had been fascinated by the tricks of a juggler who swallowed swords, knives, and forks. The last trick he had imitated a dozen of times, when one day the fork slipped from between his teeth and could not be got hold of. A doctor caught its end with a pair of dressing-forceps, but the attempt at removal gave the patient so much pain that he had to let go: the fork slipped into the stomach, and the pain was at once relieved. M. Labbé, under whose care the patient is, has proved the presence of the fork in the stomach, by an examination by a special sound under the influence of chloroform. The sound has a sounding-board apparatus attached to it. No attempt at interference has as yet been made.

M. Baillarger has reported a case in the *Union Médicale* of a lunatic who swallowed a fork, and lived six years with it in his stomach. He had walked with a peculiar stooping gait, and tried to avoid sudden shocks. It was found at the autopsy, with the points at the cardiac end of the stomach.

M. Loscoles de Lozère tells M. Labbé of the case of a lady, who, in 1824, swallowed a fork, which was well borne for six months. It then began to cause pain and swelling in the stomach, and eventually was cut out by M. Quairoche with perfect success.

M. Le Tellier reported, in the *Revue de Thérapeutique* in 1853, the case of a suicidal female, who, after various unsuccessful attempts, managed to swallow a fork. It gave no trouble for four years, when intense pain and abscesses in the thigh heralded its appearance after a long journey from the stomach. The greater part of it was removed from the trochanteric region, but the patient died exhausted.

Dr. Charpy, of Lyons, saw the following. A female lunatic, æt. 56, swallowed a fork, told of it, was not believed, till after some days a tumor was felt in the right iliac fossa, which increased in size, became red, with adherent skin, eventually bursting and giving issue to a large fork twenty days after it was swallowed; for fifty-five days air and débris of food came through the wound, which eventually healed up.

M. Dureau has written to the *Gazette Médicale* an interesting and elaborate note of remarkable substances found in the stomach. From this we extract the following bearing on the fork question. Mr. Lund's case of recovery after passing a dessert-knife from an abscess close to the umbilicus is an allied case. Dr. Chemin's case, reported by Velpeau to the Academy

of Sciences in 1849, was that of a man who, trying to force down a veal-bone which had stuck in his throat, swallowed the fork by accident. It remained fifteen days in the stomach, four months in the pyloric end, three months in the small intestine, and eventually was passed by stool, much diminished in size. The patient recovered.

M. Foville records at great length, in the *Gazette Hebdomadaire* (No. 18, 1874), two rather curious cases in which one maniac swallowed *seriatim* the whole of a set of dominoes with which two old gentlemen had been playing, while they were taking a short walk in the garden, and passed them all again by stool; while another, in a state of religious fervor, swallowed his beads, to which a cross was attached, and passed it also entire without injury.—*Edinburgh Medical Journal*.

**THE DANGER OF MIXING CHROMIC ACID WITH GLYCERIN.**—In preparing mixtures of this kind, which have been so highly recommended for diseases of the mouth and throat, care should be taken not to add these reagents together too quickly, for it is said that the fluid may take fire and explode. There is no danger if the glycerin be added drop by drop, for then a little warmth only will be generated.—*Il Raccogl. Med. Memorabilien*, 2, 1874.

### MISCELLANY.

A LATE agent on the San Carlos reservation relates the following: "The Indian Department are in the habit of issuing on certain days rations for each man, woman, and child; and on one of these occasions a crowd was assembled around the agency awaiting their turn, when a little commotion was noticed among the squaws, one of whom was seen to lie down on some hay on the ground, while others gathered around, the cause of which was explained in a few minutes by the screams of an infant. In less than half an hour the mother claimed a ration for the little stranger."

Such is woman in her wild though natural condition. A bad community for a doctor, you will doubtless say.—*B. G. McPhail, M.D.*, in *The Clinic*.

**DEATH OF AN INFANT FROM THE APPLICATION OF AN ACETATE OF LEAD LOTION TO THE NIPPLES.**—M. Bouchat mentions the case of a lady who, having used a lotion called *Eau de Madame Delacour*, a favorite quack remedy in Paris for sore nipples, omitted to wash it off before putting the child to her breast. The child was shortly after seized with violent colic, and died in a few days with all the usual symptoms of lead-poisoning.—*Gazette des Hôpitaux*.—*Boston Med. and Surg. Journal*.

**SPONGY iron** is produced by calcining powdered iron ore with charcoal. Such iron forms a most excellent filter, more powerful, it is said, than even animal charcoal. It is said that even sewage-water filtered through a layer of this substance is completely purified, and will remain sweet for almost an indefinite time.—*The College Courant*.

DR. LEVIS having resigned his connection with the clinic upon diseases of the eye at the Jefferson Medical College, Dr. William Thomson is now sole lecturer upon the subject at the institution named.

ACCORDING to one of our exchanges, if a horse be rubbed with a mixture of fifteen drachms of assafoetida in one tumbler of vinegar and two of water, the flies will not annoy him. The same object, it is stated, can be obtained more cheaply by anointing the animal with a small quantity of the oil of laurel.

### NOTES AND QUERIES.

#### DEATH OF DR. JAMES McNAUGHTON.

Dr. James McNaughton died in Paris, June 19, from heart-disease. He had gone abroad, accompanied by his wife and two daughters, to visit the home of his boyhood in Scotland. Six years ago his fiftieth anniversary in the practice of medicine was celebrated in the Albany County Medical Society. He had lectured in medical colleges for more than half a century. At the time of his death he was President of the Albany Medical College, and Professor of the Theory and Practice of Medicine. He was the oldest teacher in medicine living.

He was born on the Grampian Hills, in Perthshire, Scotland, in 1796, and at the time of his death was seventy-eight years of age. Prepared for college at Kenmore, Dr. McNaughton was admitted to the University of Edinburgh in 1812, and graduated in the medical department in 1816. He then accepted a position as surgeon on an emigrant-ship to America, and while the ship was waiting he visited some relatives in Albany, who persuaded him to resign his position and locate in the practice of medicine in that city. He determined to do so, and soon took a prominent position in the profession. Three years later he was appointed a lecturer on anatomy at the College of Physicians and Surgeons at Fairfield. The next year he was appointed to the Chair of Anatomy and Physiology, and continued to lecture for nineteen years on these subjects. In 1840 he was made Professor of the Theory and Practice of Medicine in the Albany Medical College, a position he filled with great credit until his death.

He had completed his fifty-third course of lectures, and during this time had not missed a dozen lectures.

Dr. McNaughton was known as a contributor to the various medical journals. He was a tall, hale-looking man, with courteous and genial manners. Prof. Christison, of the University of Edinburgh, is believed to be the next oldest living lecturer: he began in 1838.

A special meeting of the Medical Society of the County of Albany was held in the council-chamber, City Hall, July 2, 1874, to take suitable action in reference to his death. The attendance was very large, and, in the absence of President Swinburne, Dr. Thomas Hun was called to the chair.

Eulogies upon the deceased were pronounced by several members, and the following resolutions adopted:

"Resolved, That this Society has lost not only the eldest, but also one of its most respected and valuable members. We deplore his loss, and we sincerely mingle our sorrows and regrets with those of the dear ones in the desolate home.

"Resolved, That we attend his funeral in a body, and wear the usual badge of mourning, and that a copy of these resolutions be transmitted to the family of the deceased."

### OFFICIAL LIST

#### OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM JULY 1 TO JULY 13, 1874, INCLUSIVE.

RANDOLPH, J. F., SURGEON.—Assigned to duty as Post-Surgeon at Camp Robinson, Wyoming Territory. S. O. 90, Department of the Platte, July 3, 1874.

BYRNE, C. C., SURGEON.—Granted leave of absence for six months, with permission to go beyond sea. S. O. 145, A. G. O., July 3, 1874.

BROWN, J. M., ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Plattsburg Barracks, New York. S. O. 131, Military Division of the Atlantic, July 8, 1874.

VICKERY, R. S., ASSISTANT-SURGEON.—Assigned to duty at Little Rock, Ark. S. O. 102, Department of the Gulf, July 6, 1874.

O'REILLY, R. M., ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort D. A. Russell, Wyoming Territory. S. O. 90, c. s., Department of the Platte.

HALL, J. D., ASSISTANT-SURGEON.—Leave of absence extended thirty days. S. O. 147, A. G. O., July 7, 1874.